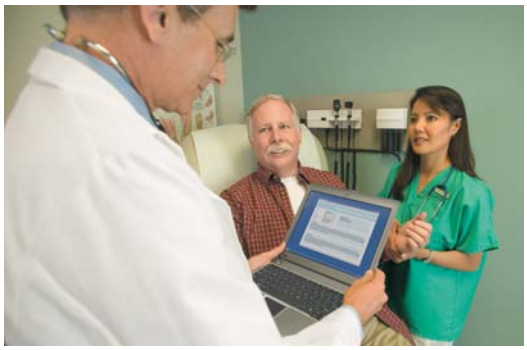

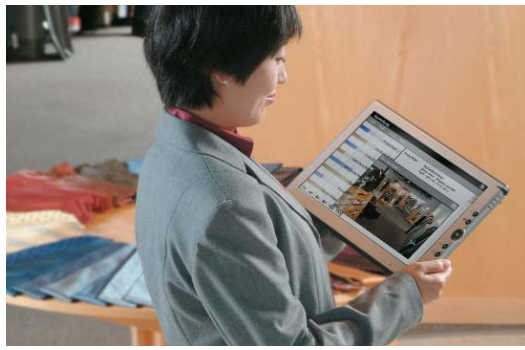

Intel in Embedded

Roadmap to your Future

With a range of leading-edge processors, flash memory, building blocks, tools and technologies, Intel is committed to embedded developers, delivering reliable solutions that help you meet stringent platform requirements and competitive development schedules.

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Embedded Intel® Architecture Platforms

	Features	Low Power			Low Power Value		
		Intel® Pentium® M Processor, Intel® Pentium® M Processor Low Voltage, Intel® 855GME Chipset, Intel® 6300ESB I/O Controller Hub	Intel® Pentium® M Processor, Intel® Pentium® M Processor Low Voltage, Mobile Intel® 915GM Express Chipset, Intel® I/O Controller Hub 6-M	Intel® Core™ Duo Processor T2500, Intel® Core™ Duo Processor L2400, Mobile Intel® 945GM Express Chipset, Intel® I/O Controller Hub 7-M/Intel® ICH7M-DH	Intel® Celeron® M Processor/Ultra Low Voltage Intel® Celeron® M Processor, Intel® 855GME Chipset, Intel® I/O Controller Hub 4	Intel® Celeron® M Processor/Ultra Low Voltage Intel® Celeron® M Processor, Mobile Intel® 915GM Express Chipset, Intel® I/O controller Hub 6-M	Intel® Pentium® 4 Processor with Hyper-Threading Technology[7]/ Intel® Celeron® D Processor/ Intel® Pentium® 4 Processor/ Intel® Celeron® Processor, Intel® 865G Chipset, Intel® I/O Controller Hub
CPU Features	Process	0.13µ/90nm[1]	90nm	65nm	0.13µ/90nm[1]	90nm	90nm[7]/0.13µ[7]
	Multi Core	No	No	Yes	No	No	No
	Dual Processor	No	No	No	No	No	No
	Performance Frequency	1.6/400, 1.8/400[1]	2.0/533	2.0/667	1.3/400, 1.5/400[1]	1.5/400	3.0/800, 2.4-2.8/533, 3.4/800, 2.0-2.6/400[6]
	LV Frequency	1.1/400, 1.4/400[1]	1.4/400	1.67/667	600/400, 1.0/400[1]	1.0/400	No
	Performance TDP	24.5W/21W[1]	27W[1]	31W	24.5W/21W[1]	21W	see below[6]
	LV TDP	12W/10W[1]	10W	15W	7W/5.5W[1]	5.5W[1]	No
	Intel® Extended Memory 64 Technology Support[§]	No	No	No	No	No	Yes[8]
	L2 Cache	1M/2M[1]	2M	2M (shared)	512k/1M[1]/512k/512k[1]	1M, 512k	1M/512KB/256KB/128KB
	Performance Vcc	1.484V/ 1.276 – 1.340V[1]	1.260 – 1.356V	0.95-1.30V	1.356V/1.26V[1]	1.26V	variable (see product briefs)
	LV Vcc	1.18V/1.116V[1]	1.116V	0.95-1.2125V	1.004V/0.94V[1]	0.94V[1]	No
	TjMax	100°C/100°C[1]	100°C	100°C	100°C	100°C	variable (see product briefs)
	Package(s)	1.1 and 1.4[1] GHz µFC-BGA only	µFC-BGA, µFC-PGA (LV 1.4 GHz µFC-BGA only)	µFC-BGA, µFC-PGA (LV 1.66 GHz µFC-BGA only)	µFC-BGA, µFC-PGA/ ULV µFC-BGA only	µFC-BGA, µFC-PGA/ µFC-BGA	variable (see product briefs)
	SSE Support	SSE2	SSE2	SSE3	SSE2	SSE2	SSE2/SSE3
	Enhanced Intel SpeedStep® Technology	Yes	Yes	Yes	No	No	No
	FSB Parity	No	No	No	No	No	Yes
MCH Features	TDP	2.6 – 4.3W	4.6 – 13.7W	5.8 – 14.7W	2.6 – 4.3W	4.6 – 13.7W	10 – 12.9W
	DDR	200/266/333 MHz	333 MHz	No	200/266/333 MHz	333 MHz	266/333/400 MHz
	DDR2	No	400/533 MHz	400/533/667 MHz	No	400/533 MHz	No
	Max Memory Size	2 GB Single Channel	2 GB Dual Channel	4 GB Dual Channel	2 GB Dual Channel	2 GB Single Channel	4 GB Dual Channel
	ECC Memory	Yes with no GFX enabled or using int GFX	No	No	Yes with no GFX enabled or using int GFX	No	No
	Integrated Graphics	Yes	Yes	Yes	Yes	Yes	No
	Graphic Output Type	VGA, DVO[4], LVDS	VGA, SDVO[4], LVDS, TV Out	VGA, SDVO[4], LVDS, TV Out	VGA, DVO[4], LVDS	VGA, SDVO[4], LVDS, TV Out	SDVO[4], VGA
	AGP Port	Yes (4x)	No	No	Yes (4x)	No	Yes (8x)
	Dual Independent Display Support	Yes	Yes	Yes	Yes	Yes	No
	Interconnect	Hublink 1.5	DMI	DMI	Hublink 1.5	DMI	Hublink 1.5
	PCI Express*	No	(1) x 16 graphics ports	(1) x 16 graphics ports	No	(1) x 16 graphics ports	No
ICH Features	TDP (max)	3.9W	2.3W	1.7W	2.2W	2.3W	2.4W
	AC' 97	Yes	Yes	Yes	Yes	Yes	Yes
	Intel® High Definition Audio	No	Yes	Yes	No	Yes	No
	ATA/100	2 channels	1 channel	1 channel	2 channels	1 channel	2 channels
	SATA	SATA 150 (2 ports)	SATA 150 (2 ports)	SATA-2 150 (2 ports)	No	SATA 150 (2 ports)	SATA 150 (2 ports)
	RAID	No	No	No/Yes (0,1 on DH)	No	No	No
	USB 2.0	4 ports	8 ports	8 ports	6 ports	8 ports	8 ports
	PCI	32/33	32/33	32/33	32/33	32/33	32/33
	PCI-X*	64/66	No	No	No	No	No
	PCI Express	No	(4) x 1 ports	(4) x1 ports/(6) x1 ports configurable (on DH)	No	(4) x 1 ports	No
	GPIO	37 (23 dedicated)	34 (14 dedicated)	39 (13 dedicated)	36 (19 dedicated)	34 (14 dedicated)	34 (17 dedicated)

Red = Intel® Celeron® D Processor; Orange = Ultra Low Voltage Intel® Celeron® M Processor

[1] Intel Pentium M and Intel Celeron M Processors on 90nm technology.

[2] Thermal specs for Intel Xeon processors and Intel Pentium 4 processor with HT Technology on 90nm are subject to the new Thermal Profile Specification Methodology. See EMTS for details.

[3] Platform specifications are subject to change as platform advances through PLC process.

[4] DVO / SDVO connections are dual pipe.

Scalable			Performance			
Intel® Pentium® 4 Processor with Hyper-Threading Technology, Intel® Celeron® D Processor, Intel® 875P Chipset, Intel® 6300ESB I/O Controller Hub	Intel® Pentium® 4 Processor with Hyper-Threading Technology/Intel® Celeron® D Processor, Intel® 915GV Express Chipset, Intel® I/O Controller Hub 6	Intel® Pentium® 4 Processor with Hyper-Threading Technology/ Intel® Celeron® D Processor, Intel® 945G Express Chipset, Intel® I/O Controller Hub 7 I/O Controller Hub 7R	Intel® Xeon® Processor with 800 MHz System Bus, Low Voltage Intel® Xeon® Processor, Intel® E7520 Chipset, Intel® 6300ESB I/O Controller Hub	Intel® Pentium® M Processor, Low Voltage Intel® Pentium® M Processor, Intel® E7520 Chipset/Intel® 6300ESB I/O Controller Hub, Intel® E7320 Chipset/ Intel® 6300ESB ICH	Intel® Celeron® M Processor/Ultra Low Voltage Intel® Celeron® M Processor, Intel® E7520 Chipset/Intel® 6300ESB I/O Controller Hub, Intel® 7320 Chipset/ Intel® 6300ESB ICH	Dual-Core Intel® Xeon® Processor LV 2.0 GHz, Dual-Core Intel® Xeon® Processor ULV, Intel® E7520 Chipset, Intel® 6300ESB I/O Controller Hub
90nm	65nm[7]/90nm[7]	65nm[7]/90nm[7]	90nm	90nm	90nm	65nm
No	No	No	No	No	No	Yes
No	No	No	Yes	No	No	Yes
3.0/800, 3.4/800, 2.8/533	3.4/800, 2.93/533	3.4/800, 2.93/533	3.2/800	2.0/533, 1.8/400	1.5/400	2.0/667
No	No	No	2.8/800	1.4/400	1.0/400	1.66/667
see below[6]	95W[2]/86W[2]/84W[2]	95W[2]/86W[2]/84W[2]	103W[2]	27W[1]/21W[1]	21W	31W[2]
No	No	No	55W[2]	10W	5.5W	15W[2]
No	Yes	Yes	Yes	No	No	No
1M/256k	2M/1M/256k	2M/1M/256k	1M	2M	1M, 512k	2M (shared)
1.25V - 1.4V/ 1.25V-1.40V (optimized VID)	1.25V - 1.4V (optimized VID)	1.25V - 1.40V (optimized VID)	1.2875V-1.4V (optimized VID)	1.26-1.356V	1.26V	1.1125-1.25 (optimized VID)
No	No	No	1.1125 – 1.2V (optimized VID)	1.116V	0.94V[1]	1.0-1.2125 (optimized VID)
Tc MAX = 69.11 – 73.2°C[2]/ Tc Max = 67°C	Tc MAX = 72.8°C[2]/ Tc MAX = 67.7°C	Tc MAX = 72.8°C[2]/ Tc MAX = 67.7°C	Tc MAX = 72°C[2] LV/ Tc MAX = 86°C[2]	100°C	100°C	100°C
FC-µPGA4	LGA-775	LGA-775	FC-µPGA4	µFC-BGA, µFC-PGA (LV 1.4 GHz µFC-BGA only)	µFC-BGA, µFC-PGA (ULV µFC-BGA only)	µFC-PGA
SSE3	SSE3	SSE3	SSE3	SSE2	SSE2	SSE3
No	No	No	Yes	Yes	No	Yes
Yes	Yes	Yes	Yes	No	No	Yes
10 – 10.1W	16.8 – 18.7W	22.2W	8 – 10W	6 - 9W	6 - 9W	8 -10W
266/333/400 MHz	333/400 MHz	No	266/333 MHz	266 MHz	266 MHz	No
No	400/533 MHz	533/667 MHz	400 MHz	400 MHz	400 MHz	400 MHz
4 GB Dual Channel	4 GB Dual Channel	4 GB Dual Channel	32 GB Dual-Channel DDR 266/24 GB Dual-Channel DDR-333/16 GB Dual-Channel DDR2-400	4 GB Dual Channel	4 GB Dual Channel	16 GB Dual Channel DDR2-400
Yes	No	No	Yes	Yes	Yes	Yes
No	Yes	Yes	No	No	No	No
No	SDVO[4], VGA	SDVO[4], VGA	No	No	No	No
Yes (8x)	No	No	No	No	No	No
No	No	Yes	No	No	No	No
Hublink 1.5	x4 DMI	x4 DMI	Hublink 1.5	Hublink 1.5	Hublink 1.5	Hublink 1.5
No	No	x16 (graphics or I/O)	(3) x 8 ports	(3) x8 ports - E7520 (1) x8 port - E7320	(3) x8 ports - E7520 (1) x8 port - E7320	(3) x8 ports
3.9W	3.8W	2.9 – 3.3W	3.9W	3.9W	3.9W	3.9W
Yes	Yes	Yes	Yes	Yes	Yes	Yes
No	Yes	Yes	No	No	No	No
2 channels	1 channel	1 channel	2 channels	2 channels	2 channels	2 channels
SATA 150 (2 ports)	SATA 150 (4 ports)	SATA-2 300 (4 ports)	SATA 150 (2 ports)	SATA 150 (2 ports)	SATA 150 (2 ports)	SATA 150 (2 ports)
No	No	No, Yes (0,1)	No	No	No	No
4 ports	8 ports	8 ports	4 ports	4 ports	4 ports	4 ports
32/33	32/33	32/33	32/33	32/33	32/33	32/33
64/66	No	No	64/66	64/66	64/66	64/66
No	(4) x 1 ports	(4) x 1 ports configurable/ (6) x1 ports configurable	No	No	No	No
37 (23 dedicated)	38 (14 dedicated)	39 (14 dedicated)	37 (23 dedicated)	37 (23 dedicated)	37 (23 dedicated)	37 (23 dedicated)

[5] No information available; for internal audience only.
[6] See line item processor for specific front-side bus pairing or branding.
[7] 65nm: Intel Pentium 4 processor 651 with HT Technology; 90nm: Intel Pentium 4 processor 551[A] with HT Technology and Intel Celeron D processors 335[A] and 341[A]; 0.13µ: Intel Pentium and Intel Celeron processors.
[8] Intel Pentium 4 processor with HT Technology or Intel Celeron D processors 551[A] and 341[A] only.

Intel® Flash Memory

Intel StrataFlash® Embedded Memory (P30)								
Density	**Product**	**Organization**	**Access Time (ns)**	**Package**	**Pin/Ball Count**	**V_{CC}**	**V_{PP}**	**I/O**
512 Mb[1]	48F4400P0V	32M x 16	85[25][a]/[20][b]	RD/PF/RC/PC	88/64	1.7–2.0V	0.9–3.6V or 9V	1.7–3.6V
256 Mb[1]	28F256P30	16M X 16	85[25][a]/[20][b]	TE/JS/RC/PC	56/64	1.7–2.0V	0.9–3.6V or 9V	1.7–3.6V
	48F4000P0Z	16M X 16	85[25][a]/[20][b]	RD/PF	88	1.7–2.0V	0.9–3.6V or 9V	1.7–3.6V
128 Mb[1]	28F128P30	8M X 16	85[25][a]/[20][b]	TE/JS/RC/PC	56/64	1.7–2.0V	0.9–3.6V or 9V	1.7–3.6V
	48F3000P0Z	8M X 16	85[25][a]/[20][b]	RD/PF	88	1.7–2.0V	0.9–3.6V or 9V	1.7–3.6V
64 Mb[1]	28F640P30	4M X 16	85[25][a]/[20][b]	TE/JS/RC/PC	56/64	1.7–2.0V	0.9–3.6V or 9V	1.7–3.6V
	48F2000P0Z	4M X 16	85[25][a]/[20][b]	RD/PF	88	1.7–2.0V	0.9–3.6V or 9V	1.7–3.6V

Intel® Advanced+ Boot Block Flash Memory[1]								
Density	**Product**	**Organization**	**Access Time (ns)**	**Package**	**Pin/Ball Count**	**V_{CC}**	**V_{PP}/V_{PEN}**	**I/O**
32 Mb	28F320C3	2M x 16	70, 90	TE/JS/GE/PH/RC/PC	48/64	2.7–3.6V	1.65–3.6V or 12V	1.65–2.5V or 2.7–3.6V
	28F320B3	2M x 16	70, 90	TE/JS/GE/PH	48	2.7–3.6V	2.7–3.6V or 12V	1.65–2.5V or 2.7–3.6V
16 Mb	28F160C3	1M x 16	70, 90	TE/JS/GE/PH/RC/PC	48/64	2.7–3.6V	1.65–3.6V or 12V	1.65–2.5V or 2.7–3.6V
	28F160B3	1M x 16	70, 90	TE/JS/GE/PH	48	2.7–3.6V	2.7–3.6V or 12V	1.65–2.5V or 2.7–3.6V
8 Mb	28F800C3	512K x 16	70	TE/JS/RC/PC	48/64	2.7–3.6V	1.65–3.6V or 12V	1.65–2.5V or 2.7–3.6V

Intel® Embedded Flash Memory (J3 v. D)[1]								
Density	**Product**	**Organization**	**Access Time (ns)**	**Package**	**Pin/Ball Count**	**V_{CC}**	**V_{PP}/V_{PEN}**	**I/O**
128 Mb	28F128J3D	16M x 8 or 8M x 16	75[25][a]	TE/JS/RC/PC	56/64	2.7–3.6V	3V	2.7–3.6V
64 Mb	28F640J3D	8M x 8 or 4M x 16	75[25][a]	TE/JS/RC/PC	56/64	2.7–3.6V	3V	2.7–3.6V
32 Mb	28F320J3D	4M x 8 or 2M x 16	75[25][a]	TE/JS/RC/PC	56/64	2.7–3.6V	3V	2.7–3.6V

Intel® Wireless Flash Memory (W18/W30)[1]								
Density	**Product**	**Organization**	**Access Time (ns)**	**Package**	**Pin/Ball Count**	**V_{CC}**	**V_{PP}/V_{PEN}**	**I/O**
128 Mb	28F128W18	8M x 16	60[20][a]/[11][b] 80[25][a]/[14][b]	GE, PH	56	1.70–1.95V	0.9–1.95V or 12V	1.35–2.24V
	28F128W30	8M x 16	70[25][a]/[20][b]	GE, PH	56	1.70–1.90V	0.9–1.95V or 12V	2.2–3.3V
64 Mb	28F640W18	4M x 16	60[20][a]/[11][b] 80[25][a]/[14][b]	GE, PH	56	1.70–1.95V	0.9–1.95V or 12V	1.35–2.24V
	28F640W30	4M x 16	70[25][a]/[20][b] 85[25][a]/[22][b]	GE, PH	56	1.70–1.90V	0.9–1.95V or 12V	2.2–3.3V
32 Mb	28F320W18	2M x 16	60[20][a]/[11][b] 80[25][a]/[14][b]	GE, PH	56	1.70–1.95V	0.9–1.95V or 12V	1.35–2.24V
	28F320W30	2M x 16	70[25][a]/[20][b] 85[25][a]/[22][b]	GE, PH	56	1.70–1.90V	0.9–1.95V or 12V	2.2–3.3V

[1] Extended Temperature Range: –40°C to +85°C

Access Time Footnotes:
a = Page Mode Access
b = Synchronous Burst Mode

Intel® PCI Bridges

Primary and Secondary PCI Interface Features						
Transparent	**Model Number**	**PCI Bus**	**Write Buffer**	**Read Buffer**	**Delayed Transaction Queue**	**CLK, REQ #, GNT # Pins**
Yes	21152	32-bit	88 Bytes	72 Bytes	3 entries	4 sets
Yes	21154	64-bit	88 Bytes[2]/152 Bytes[3]	72 Bytes[2]/152 Bytes[3]	3 entries	9 sets @ 33 MHz, 4 sets @ 66 MHz
No	21555	64-bit	256 Bytes	256 Bytes	4 entries	9 sets @ 33 MHz, 4 sets @ 66 MHz
Yes	31154	64-bit	8 KBytes	8 KBytes	9 – 24	9 sets PCI-X*
Yes	41110	64-bit	1 KByte	1 KByte	4 entries	6 sets PCI-X
Yes	41210	64-bit	1 KByte	1 KByte	4 entries	6 sets per PCI-X bus

Other Product Features						
Transparent	**Model Number**	**JTAG**	**GPIO**	**Package**	**PCI Revision**	**Max. Clock**
Yes	21152	No	No	160 PQFP	2.3	33 MHz
Yes	21154	Yes	Yes	304 PBGA	2.3	33 MHz/66 MHz
No	21555	Yes	No	304	2.3	33 MHz/66 MHz
Yes	31154	Yes	Yes	421 PBGA	PCI-X* v2.0 Mode 1	133 MHz
Yes	41110	Yes	No	567 FC3BGA	PCI Express* 1.0a, PCI-X v2.0 Mode 1	2.5 GHz/133 MHz
Yes	41210	Yes	No	567 FC3BGA	PCI Express 1.0a, PCI-X v2.0 Mode 1	2.5 GHz/133 MHz

[2] Primary PCI Interface, only
[3] Secondary PCI Interface, only

Intel® Ethernet Transceivers (10/100 Mbps)

Product	Package	Ports	I/O Voltage	Interface	Extended Temp (-40°C to 85°C)	Fiber	Sleep Mode
LXT971A	64-pin QFP, 64-ball BGA	1	2.5V/3.3V	MII	Yes	Yes	Yes
LXT972A	64-pin QFP	1	2.5V/3.3V	MII	No	No	No
LXT972M	48-pin LQFP	1	2.5V/3.3V	MII	No	No	No
LXT973	100-pin PQFP	2	2.5V/3.3V	MII	Yes	Yes	No
LXT9785	208-pin PQFP, 241-ball PBGA	8	2.5V/3.3V	SMII, SS-SMII, RMII (QFP) SMII, SS-SMII (BGA)	No	Yes	No
LXT9785E	208-pin PQFP, 241-ball PBGA	8	2.5V/3.3V	SMII, SS-SMII, RMII (QFP) SMII, SS-SMII (BGA)	Yes	Yes	No
LXT9785MBC	196-ball PBGA	8	2.5V/3.3V	SMII, SS-SMII	No	No	No

Intel® PRO/100 Ethernet Controllers

Product Name	Intel® 82559, Intel® 82559C, Intel® 82559ER	Intel® 82551QM, Intel® 82551ER	Intel® 82551IT	Intel® 82562ET, Intel® 82562EM, Intel® 82562GT	Intel® 82562EZ, Intel® 82562EX, Intel® 82562GZ
Brand Name	**Intel® PRO/100 Network Connection**	**Intel® PRO/100 M Network Connection**	**Intel® PRO/100 M Network Connection**	**Intel® PRO/100 VE Network Connection**	**Intel® PRO/100 VE Network Connection**
Device	Single-Port MAC/PHY	Single-port MAC/PHY	Single-port MAC/PHY	Single-port PHY	Single-port PHY
Package Size	15x15mm	15x15mm	15x15mm	15.85x7.5mm	15x15mm
Physical Package	196-pin BGA	196-pin BGA	196-pin BGA	48-pin SSOP	196-pin BGA
Bus Type	PCI	PCI	PCI	LCI	LCI
Bus Speed	33 MHz	33 MHz	33 MHz	--	--
Bus Width	32-bit	32-bit	32-bit	--	--
Power (Typical)	0.675W	0.61W	0.61W	0.3W	0.3W
Power (Standby)	0.05W @ 3.3V	0.05W @ 3.3V	0.05W @ 3.3V	0.05W @ 3.3V	0.05W @ 3.3V
Operating Temperature	0 - 85°C	0 - 85°C	-40 - 85°C	0 - 85°C	0 - 85°C
Power Supply	3.3V	3.3V	3.3V	3.3V	3.3V
Order Code	GD82559, GD82559C, GD82559ER	GD82551QM, GD82551ER	GD82551IT	DA82562ET, DA82562EM	GD82562EZ, GD82562EX, GD82562GZ
RoHS SKU		LU82551QM, LU82551ER	LU82551IT	EP82562ET, EP82562GT	LU82562EZ, LU82562GZ
Footprint Compatible		82547GI, 82540EM/EP, 82541PI/ER	82547GI, 82540EM/EP, 82541PI/ER		82547G.I, 82540EM/EP, 82541PI/ER

Intel® PRO/1000 Gigabit Ethernet Controllers

Product Name	Intel® 82545GM	Intel® 82546GB	Intel® 82540EP Intel® 82540EM	Intel® 82541PI Intel® 82541ER	Intel® 82573E/V Intel® 82573L	Intel® 82571EB	Intel® 82572EI
Brand Name	**Intel® PRO/1000 MT**	**Intel® PRO/1000 MT**	**Intel® PRO/1000 MT**	**Intel® PRO/1000 MT**	**Intel® PRO/1000 PM**	**Intel® PRO/1000 PM**	**Intel® PRO/1000 PM**
Device	Single-port MAC/PHY/SerDes	Dual-port MAC/PHY/SerDes	Single-port MAC/PHY	Single-port MAC/PHY	Single-Port MAC/PHY	Dual-port MAC/PHY/SerDes	Single-port MAC/PHY/SerDes
Package Size	21x21mm	21x21mm	15x15mm	15x15mm	15x15mm	17x17mm	17x17mm
Physical Package	364-pin TFBGA	364-pin PBGA	196-pin TFBGA	196-pin PBGA	196-pin TFBGA	256-pin FCBGA	256-pin FCBGA
Bus Type	PCI*/PCI-X*	PCI/PCI-X	PCI	PCI	PCI Express*	PCI Express	PCI Express
Bus Speed	33/66/133 MHz	33/66/133 MHz	33/66 MHz	33/66 MHz	x1	x1/x4	x1/x4
Bus Width	32/64-bit	32/64-bit	32-bit	32-bit	--	--	--
Power (Typical)	~1.5W	~2.6W/~1.5W (SerDes)	~1.4W	~1.0W	~1.3W[2]/~1.2W[3]	~2.8W/~1.8W (SerDes)	~1.5W/~0.7W (SerDes)
Power (Standby)	125mA @ 3.3V	220mA @ 3.3V	120mA @ 3.3V, 60mA @ 3.3V	45mA @ 3.3V	103mA @ 3.3V[2], 26mA @ 3.3V[3]	226mA @ 3.3V	220mA @ 3.3V
Operating Temp	0 - 70°C	0 - 55°C	0 - 70°C	0 - 70°C	0 - 70°C	0 - 70°C[1]	0 - 70°C
Power Supply	1.5, 2.5, 3.3V	1.5, 2.5, 3.3V	1.5, 2.5, 3.3V	1.2, 1.8, 3.3V	1.2, 2.5, 3.3V	1.1, 1.8, 3.3V	1.1, 1.8, 3.3V
Order Code	RC82545GM	FW82546GB	RC82540EP RC82540EM	GD82541PI GD82541ER	RC82573E[2] RC82573V[2] RC82573L[3]	HL82571EB	HL82572EI
RoHS SKU	PC82545GM	NH82546B		LU82541PI LU82541ER	PC82573E[2] PC82573V[2] PC82573L[3]	JL82571EB	JL82572EI
Footprint Compatible			Intel® 82551QM/ER/IT Intel® 82562EZ/EX/GZ	Intel® 82551QM/ER/IT Intel® 82562EZ/EX/GZ	Intel® 82562EZ/EX/GZ		

[1] 0-70°C with thermal management
[2] 82573E/V only
[3] 82573L only

Intel XScale® Technology-Based Processors

	Intel® PXA255 Processor	Intel® PXA270 Processor	Intel® IXP420 Network Processor	Intel® IXP421 Network Processor	Intel® IXP422 Network Processor	Intel® IXP423 Network Processor
Core Speed (MHz)	200/300/400	312/416/520/624	266/400/533	266	266	266
WAN/Voice NPE (Utopia 2 and HSSO, 1)				•		•
PCMCIA	•	•	PCI bridge needed	PCI bridge needed	PCI bridge needed	PCI bridge needed
CompactFlash*	•	•	expansion bus	expansion bus	expansion bus	expansion bus
ECC						
Dynamic Memory	16/32-bit wide	16/32-bit wide	16/32-bit wide	16/32-bit wide	16/32-bit wide	16/32-bit wide
SDRAM	100 MHz	100 MHz	133 MHz	133 MHz	133 MHz	133 MHz
DDR						
DDR2						
Static Memory	16/32-bit wide	16/32-bit wide	16-bit wide	16-bit wide	16-bit wide	16-bit wide
ROM	•	•	•	•	•	•
SRAM	•	•	•	•	•	•
FLASH	•	•	•	•	•	•
UART	Standard, Hardware, Full Function, Bluetooth*	Standard, Hardware, Full Function, Bluetooth	2	2	2	2
I²C	•	•	via GPIO	via GPIO	via GPIO	via GPIO
SPI			via GPIO	via GPIO	via GPIO	via GPIO
SSP	•	•				
NSSP	•	•				
Audio SSP	•	•				
HSS-Voice				•		•
HSS-WAN				•		•
UTOPIA 2				•		•
CSIX						
Ethernet MII/SMII			• (2 MII)	• (1 MII)	• (2 MII)	• (2 MII)
GPIO Number	85	119	16	16	16	16
DMA Controller	•	•				
LCD Controller	•	•				
USB Client	•	•	•	•	•	•
USB Host/OTG		•				
PCI 2.2 Host I/F			32-bit, 33/66 MHz	32-bit, 33/66 MHz	32-bit, 33/66 MHz	32-bit, 33/66 MHz
PCI-X*						
PCI-Express*						
AES/DES/DES3					•	
SHA-1/MD-5					•	
SHA-256/-384/-512/EAU						
HW RNG						
HDLC Channels				•		•
MMC	•	•				
Expansion Bus			16-bit, 66 MHz	16-bit, 66 MHz	16-bit, 66 MHz	16-bit, 66 MHz
At MHz, Power Dissipation (typical for PXA; all others MAX)	at 200 MHz, 1637mW; at 300 MHz, 2057mW; at 400 MHz, 2598mW	at 200 MHz, 279mW; at 312 MHz, 390mW; at 416 MHz, 570mW; at 520 MHz, 747mW	at 266 MHz, 2.2W; at 400 MHz, 2.33W; at 533 MHz, 2.47W	at 266 MHz, 2.2W	at 266 MHz, 2.2W	at 266 MHz, 2.2W
Windows CE .NET*	•	•	•	•	•	•
PocketPC* 2002/ SmartPhone* 2002	•	•				
VxWorks*	•		•	•	•	•
Linux*	•	•	•	•	•	•
Other OS	Palm OS,* Symbian	Palm OS, Symbian				
SDK Available						
Development Platform	•	•	•	•	•	•
Extended Temperature	-40˚C to 85˚C	-40˚C to 85˚C	-40˚C to 85˚C			
Package Type	256-pin 17x17x1.75mm PBGA	360-pin 22x22x2.38mm, 356-pin 13x13mm VFBGA	492-pin 35x35x1.27 PBGA	492-pin 35x35x1.27 PBGA	492-pin 35x35x1.27 PBGA	492-pin 35x35x1.27 PBGA
Pb-Free SKU	•	•	•	•	•	•

Intel® IXP425 Network Processor	Intel® IXP455 Network Processor	Intel® IXP460 Network Processor	Intel® IXP465 Network Processor	Intel® 80219 General Purpose PCI Processor	Intel® IOP331 I/O Processor	Intel® IOP332 I/O Processor
266/400/533	266/400/533	266/400/533/667	266/400/533/667	400/600	500/667/800	500/667/800
•	•		•			
PCI bridge needed	PCI bridge needed	PCI bridge needed	PCI bridge needed			
expansion bus	expansion bus	expansion bus	expansion bus			
		•	•	•	•	•
16/32-bit wide	32-bit wide	32-bit wide	32-bit wide	32/64-bit wide	32/64-bit wide	32/64-bit wide
133 MHz						
	266 MHz	266 MHz	266 MHz	200 MHz	333 MHz	333 MHz
					400 MHZ	400 MHZ
16-bit wide	16/32-bit-wide	16/32-bit wide	16/32-bit wide	16/32-bit wide	16-bit wide	16-bit wide
•	•	•	•	•	•	•
•	•	•	•	•	•	•
•	•	•	•	•	•	•
2	2	2	2	0	2	2
via GPIO	•	•	•	•	•	•
via GPIO	•	•	•			
	•	•	•			
•	•		•			
•	•		•			
•	•		•			
• (2 MII)	• (3 MII or 3 SMII)	• (2 MII or 2 SMII)	• (3 MII or 6 SMII)			
16	16	16	16	8	8	8
				•	•	•
•	•	•	•			
	• (no OTG)	• (no OTG)	• (no OTG)			
32-bit, 33/66 MHz	32-bit, 33/66 MHz	32-bit, 33/66 MHz	32-bit, 33/66 MHz	64-bit, 66 MHz/133 MHz	64-bit, 66 MHz/133 MHz	64-bit, 66 MHz/133 MHz
				•	•	•
						•
•	•		•			
•	•		•			
	•		•			
	n		•			
•	•		•			
16-bit, 66 MHz	16/32-bit, 80 MHz (w/ external mastering)	16/32-bit, 80 MHz (w/ external mastering)	16/32-bit, 80 MHz (w/ external mastering)	32-bit, 33/66/100/133 MHz	8/16-bit, 33/66/100/133 MHz	8/16-bit, 33/66/100/133 MHz
at 266 MHz, 2.2W; at 400 MHz, 2.33W; at 533 MHz, 2.47W	at 266 MHz, 2.8W; at 400 MHz, 3.0W; at 533 MHz, 3.2W	at 266 MHz, 2.8W; at 400 MHz, 3.0W; at 533 MHz, 3.2W; at 667 MHz, 4.0W	at 266 MHz, 2.8W; at 400 MHz, 3.0W; at 533 MHz, 3.2W; at 667 MHz, 4.0W	at 400 MHz, 2.9W at 600 MHz, 3.5W	at 500 MHz, 7.9W; at 667 MHz, 8.1W; at 800 MHz, 8.2W	at 500 MHz, 7.9W; at 667 MHz, 8.1W; at 800 MHz, 8.2W
•				•		
•	•	•	•		•	•
•	•	•	•	•	•	•
				Wasabi, ECOS, Express Logic, Timesys	Timesys	Timesys
					•	•
•	•	•	•	•	•	•
-40˚C to 85˚C	-40˚C to 85˚C	-40˚C to 85˚C	-40˚C to 85˚C	0˚C to 85˚C		
492-pin 35x35x1.27 PBGA	544-pin 35x35x1.27 PBGA	544-pin 35x35x1.27 PBGA	544-pin 35x35x1.27 PBGA	544-pin 35x35x1.27 LPBGA	829-ball 37.5x27.5 FCBGA	829-ball 37.5x27.5 FCBGA
•	•	•	•	•	•	•

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[1]Hyper-Threading Technology requires a computer system with an Intel® Pentium® 4 processor supporting HT Technology and a HT Technology enabled chipset, BIOS and operating system. Performance will vary depending on the specific hardware and software you use. See intel.com/info/hyperthreadingfor additional information.

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[4]Intel processor numbers are not a measure of performance. Processor numbers differentiate features within each processor family, not across different processor families. See intel.com/products/processor_number for details.

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